REMARKS

Claims 1-5 and 8, as amended, remain herein.

Applicants' independent claim 1 has been amended for clarity to state that "the holding member being located between the metal case and the ceramic honeycomb structure, fixedly holding the ceramic honeycomb catalyst carrier structure in the metal case." Independent claim 1 still prominently recites that the ceramic honeycomb catalyst carrier structure "is not loaded with a catalyst." The aforementioned amendment is consistent with applicants' disclosure as originally filed, and now specifies that the ceramic honeycomb structure is one specifically designed to be a catalyst carrier, not a structure designed for some other purpose.

Applicants' specification, pages 2-4, explains the situation existing in the prior art before applicants' claimed invention. As mentioned at page 2, lines 10-12, referring to applicants' Fig. 5, in the prior art a canned catalyst carrier was manufactured by manufacturing a ceramic honeycomb carrier body, transporting such a body to the catalyst manufacturer who loaded the ceramic substrate with catalyst, and the thus catalyst-loaded ceramic substrate was then transported to the canning manufacturer where it was incorporated into a canned, catalytic converter. However, applicants' specification, page 3, line 8, through page 4, line 14, explains the problems attendant such prior art systems, wherein ceramic honeycomb structures of conventional thickness used in such prior art systems are easily susceptible to cracks or chipping during transporting, catalyst application, canning, and handling, during each step of such processes, including packing, unpacking, and placing on or taking off of mechanical facilities

such as conveyors, chucking, and canning. Applicants' specification, page 4, lines 4-14 explains one prior art attempt to solve that problem, and the disadvantages of that proposed solution.

Applicants' solution to the prior art problems is to fixedly secure a ceramic honeycomb catalyst carrier structure, which is not yet loaded with catalyst, in a metal canning case, thereby protecting the ceramic honeycomb structure with the metal case as well as a fiber mat holding member located between the metal case and the ceramic honeycomb structure. Applicants' claimed canning structure is constructed before the ceramic honeycomb catalyst carrier structure is loaded with any catalyst, which is counter-intuitive because the catalyst is often the most important and most expensive part of catalytic converters.

Applicants' system, while solving the problems of the prior art as outlined in applicants' specification, creates another problem, namely, how to load the ceramic honeycomb structure already fixedly held within a metal case by a ceramic fiber mat holding member, with catalyst to an effective degree, without wasting catalyst-containing solutions by which catalyst may be applied to such ceramic honeycomb structures. And, applicants' claims expressly facilitate solution of that problem by specifying that the claimed structure consists of a metal case having two opposing "fully open ends" (such as a cylindrical metal case without ends) to permit the entire cross-section of the honeycomb structure to be equally accessible to catalyst application.

The prior art applied in the Office Action does not disclose applicants' claimed canning structure consisting of a ceramic honeycomb catalyst carrier structure which is not loaded with a catalyst. Nor does the prior art discuss the aforementioned problems associated with the prior art, or the problems created by applicants' system. As previously indicated, applicants' claimed

invention is counter-intuitive to the prior art and the various problems relating to the manufacture of catalytic converters including ceramic honeycomb structures, and thus applicants' claimed invention is non-obvious even in view of such prior art.

1. Claims 1 and 5 were rejected under § 103(a) over Locker EP '133 in view of Close US '865.

The Office Action admits that Locker "fails to disclose whether the ceramic honeycomb structure is fixed beforehand within the metal case, e.g. honeycomb structure not loaded with a catalyst." However, Locker is entitled "Method of Making a Catalytic Converter. . . ." Locker claims "a catalytic converter." Locker expressly states: "the honeycomb substrate is typically treated with a catalyst containing washcoat prior to installation in the metal shell." Locker '133, col. 6, lines 48-50; emphasis added here. In contrast to these affirmative disclosures, Locker nowhere affirmatively discloses that a ceramic substrate not loaded with a catalyst, is fixed within a metal case before being loaded with the catalyst. Obviousness cannot be based upon something that was unknown before an inventor's discovery. See, for example, In re Adams, 356 F.2d 998, 148 USPQ 742, 746 (CCPA 1966) (Rich, J.). Furthermore, Locker does not disclose the problems in the prior art (including that represented by the Locker disclosure) as discussed in applicants' specification. There is simply no disclosure or teaching in Locker of applicants' claimed invention, nor is there any suggestion in Locker to one of ordinary skill in the art to make applicants' claimed invention.

The Office Action also asserts that Close et al. discloses that catalyst may be deposited on the catalyst support before or after being mounted in a casing (col. 5, lines 36-43). Close '865, col. 5, lines 36 et seq discloses

> A catalyst support with platinum catalyst therein is mounted in a casing using the above resilient paper and cellular foam. . . . It is further possible to mount the ceramic honeycomb and deposit catalyst on that. This procedure is useful with any catalyst. The cellular foam and formation thereof in a confined space assure tight seals to reduce or substantially eliminate bypassing of the catalyst by fluent gases or liquids.

However, Close does not disclose the use of "a non-intumescent ceramic fiber mat holding member," as expressly disclosed and claimed by applicants. Close discloses only the use of "layers of resilient, inorganic paper 22." Additionally, Close makes use of cellular foam 30 to retain a catalyst substrate and such paper in a casing. Thus, there is no disclosure or teaching in Close of applicant's claimed invention, nor is there in Close any suggestion to one of ordinary skill in the art of applicants' claimed invention.

The Office Action thus picks and chooses among the elements of Locker and Close, guided by the hindsight of applicants' disclosure and claims, and concludes that the exact combination of applicants' claim 1 would obviously have been selected by one of ordinary skill in the art knowing the disclosures of both Locker and Close. However, the hindsight-motivated selective combination suggested in the Office Action requires one of ordinary skill in the art to discard from Locker the catalytic aspect of the catalytic converter substrate used by Locker. And, that combination requires one of ordinary skill in the art to discard the paper and foam elements which are central to the subject matter disclosed and claimed by Close. Such a

combination is simply not suggested by either of the references, and the combination requires substantive changes in the disclosures of each of the prior art references to be able to arrive, by hindsight, at applicants' claimed invention.

For all the foregoing reasons there is no disclosure or teaching in either Locker or Close of all elements of applicants' claimed invention. Nor is there any disclosure or teaching in either Locker or Close which would suggest the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently-claimed invention. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

2. Claims 2-4 and 8 were rejected under § 103(a) over Locker, in view of Close, further in view of Machida U.S. '079.

The Office Action admits that Locker does not disclose the specific diameter of the ceramic fibers of the holding material as claimed in claim 8, the specific type of case, as claimed in claim 4, and the thickness of the cell walls as claimed in claims 2 and 3. The Office Action looks to the disclosure of Machida for all of those elements. The Office Action then concludes it would have been obvious "to select the specific ceramic fiber diameter as taught by Machida et al. in the modified apparatus of Locker et al., if not inherent therein. . . . " As admitted throughout the Office Action, Locker does not disclose all elements of applicants' invention as recited in independent claim 1. Nor does Machida. Inherency cannot be based upon what is unknown. Thus, inherency cannot be a basis for rejection extrapolated from the modification of one reference and combining portions of another reference with the modified first reference.

For the reasons discussed above herein with respect to independent claim 1, dependent claims 2-4 and 8 are also allowable. Further, there is no disclosure or teaching of all elements of applicant's claimed invention in any of Locker, Close, or Machida. Nor is there any disclosure in any of Locker, Close, or Machida that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

3. Claims 1-5 and 8 were rejected under § 103(a) over Langer WO '144 in view of Close and Machida.

Langer discloses pollution control devices comprising a honeycomb ceramic element 20, which may be a honeycomb ceramic catalyst support, within a stainless steel housing 11 or 44 with a multi-layer sheet 30 or 50 compressed between the honeycomb structure 20 or 42 and the housing 11 or 44. The mats 30 or 50 are multi-layer sheets comprising at least one non-moldable, flexible layer that may be either non-intumescent or intumescent, and another non-moldable layer. However, the housing 11 or 44 as illustrated in Figs. 1 and 2 of WO '144 includes end cones 46, 48 in which there is only a relatively small opening centered approximately on the axis of the housing. The Office Action mailed February 14, 2006, page 7, expressly admits that the Langer WO '144 "reference is silent as to whether the carrier may be coated with a catalyst material after installation into the casing."

Applicants' claims now specify that the ceramic honeycomb structure is a ceramic honeycomb catalyst carrier structure not loaded with catalyst. And, applicants' independent

claim 1 specifies that the claimed canning structure is one "consisting of" two opposing "fully open ends," such open ends being illustrated in Figs. 1(c) and 2(c) of applicants' drawings. Thus, not only is applicants' claimed invention a canning structure consisting of a ceramic honeycomb catalyst carrier structure which is expressly designed for use as a catalyst carrier, not yet loaded with catalyst, but it also includes a metal case that has two opposing fully open ends. Contrary to that claimed structure, Langer WO '144 discloses only a structure wherein housing 44 includes conical ends 46 and 48 (see Fig. 2) which include only a small central opening. That small central opening inhibits, and does not facilitate, application of catalyst to the ceramic honeycomb structure already within such a canister having substantially enclosed ends.

Thus, for all the foregoing reasons, there is no disclosure or teaching in Langer WO '144 of all elements of applicants' presently claimed invention, nor is there any disclosure in Langer which would have suggested applicants' claimed invention to one of ordinary skill in the art.

For the reasons discussed above herein, there is also no disclosure or teaching in either of Close or Machida which would have suggested applicants' presently claimed invention to one of ordinary skill in the art. And, there is no disclosure or teaching in any of Langer, Close, or Machida which would have suggested the desirability of modifying or combining any portions of any of those references effectively to anticipate or suggest applicants' presently claimed invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Claims 1-5 and 8 are now proper in form and patentably distinguished over all grounds of rejection stated in the Office Action. Accordingly allowance of all claims 1-5 and 8 is respectfully solicited. The PTO is authorized to charge/credit any necessary fees or overpayment to applicants' attorneys' deposit account No. 19-4293. Should the Examiner feel that further amendment would place this application into even better condition for issue, the Examiner is invited to telephone applicants' undersigned attorney at the number listed below.

Respectfully submitted,

April 10, 2007

Roger W. Parkhurst
Registration No. 25,177

STEPTOE & JOHNSON LLP
1330 Connecticut Ave., N.W.
Washington, D.C. 20036
(202) 429-6415

Attorney Docket No. 28953.7204